the roc Curve (AUC), R^2 Nagelkerke and classification accuracy of TARN model A to predict survival increase from 0.64, 0.08 and 71% to 0.72, 0.20 and 74.7%, respectively). Similarly, the predictive power of S100B increases by adding other predictors to S100B (e.g. AUC (0.69 versus 0.78), R^2 Nagelkerke (0.15 versus 0.30) and classification accuracy (73% versus 77%) for survival prediction).

Conclusion: S100B appears to be the strongest prognostic variable in TBI. A better prognostic tool than those which are currently available may be a combination of both clinic-demographic predictors with S100B.

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1A.61

Massive blood transfusion practice in United Kingdom trauma

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Introduction: Haemorrhage is a leading cause of mortality in trauma, with recent evidence emphasising the importance of haemostatic resuscitation and use of massive transfusion protocols. Few studies have characterised massive blood transfusion (MBT) practice in United Kingdom (UK) trauma. This study describes the Trauma Research and Audit Network (TARN) experience of massive transfusion over a 5-year period.

Methods: We analysed prospectively collected data from the TARN database for patients presenting between 2005 and 2009. MBT was defined as administration of 10 or more units of packed red cells within 24 h. The prevalence of MBT was examined, and patient characteristics, blood product usage and mortality compared to non-MBT patients. Initial clinical and injury features predictive of massive transfusion and risk factors predictive of death in MBT were also analysed using multivariate logistic regression.

Results: One hundred and fifty seven (0.4%) received MBT, with a mortality rate of 40.3%. Median age of MBT patients was 39.5 years, median ISS was 27 and 78% were male. MBT patients were more likely to be younger, male and to have sustained more severe, penetrating or trunk trauma ($p < 0.01$). No patients received platelets and FFP in 1:1 ratios with packed red cells. Multivariate analysis showed: age OR 1.02 (1.005–1.025), admission pulse rate OR 1.02 (1.016–1.029), systolic blood pressure OR 0.96 (0.969–0.981), and injury type; thoracic OR 4.21 (2.706–6.536), abdominal OR 5.06 (3.253–7.88), pelvis OR 3.649 (2.02–6.591), were significant predictors of MBT. ISS and admission pulse rate were also independent predictors of death in MBT, but level of platelet and FFP use were not found to be statistically significant.

Conclusion: MBT is a rare event with high mortality in UK trauma. Haemostatic resuscitation is not currently practiced in the UK and we were unable to show that FFP and platelet use were significant predictors of survival in MBT.

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1A.62

Comparing model performance for outcome prediction using total GCS and its components in traumatic brain injury

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Objective: To analyse the prognostic power of various GCS components and combinations of components in traumatic brain injury patients and to investigate which time point of GCS measurement (at scene versus on admission to the Emergency Department (ED)) has more prognostic strength.

Methods: Records of patients with brain injury since 1989 were extracted from the Trauma Audit and Research Network (TARN) database. Using logistic regression, a baseline model was derived with age and Injury Severity Score (ISS) as regressors and discharge outcome (survival) as the dependent variable. Total GCS, its components and their combinations were separately added to the baseline model in order to compare their effect on model performance.

Results: 21454 cases with brain injury were analysed. The eye subscore has significantly lower performance compared to total GCS, motor score and various combinations of GCS subscores [e.g. eye subscore: AUC of 0.89 (95% CI: 0.89–0.90) and Nagelkerke R^2 of 0.53, total GCS: AUC of 0.91(95% CI: 0.91–0.92) and Nagelkerke R^2 of 0.58]. The total GCS and the motor subscore have the same predictive strength. Furthermore, the total GCS score at scene and its components hold significantly lower predictive power as compared to those recorded on arrival at ED [scene total GCS: AUC: 0.89(95% CI: 0.89–0.90) and Nagelkerke R^2 of 0.54, arrival total GCS: AUC of 0.91 (95% CI: 0.91–0.92) and Nagelkerke R^2 of 0.58].

Conclusion: Significantly lower predicative performance of the eye subscore may indicate the need for a surrogate scale when collection of both motor and verbal response is not reliable due to paralysis and intubation. Further, better predicative strength of admission scores than scene scores may be due to less accurate measurement of GCS at scene. This highlights the importance of initiatives to improve GCS collection at scene since GCS affects critical decisions as to field endotracheal intubation or triage for referral to the trauma centres.

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1A.63

Major incident tabletop exercises: a high tech, low cost evolution

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Traditional tabletop exercises, that facilitate major incident (MI) planning and education, use paper plans and models. We describe a low-cost, electronic whiteboard that explores how interactive soft-